

87409

Access DB# \_\_\_\_\_

## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: S. Kumar Examiner #: 69594 Date: 2/25/03  
 Art. Unit: 1621 Phone Number 301 8454 Serial Number: 101089131  
 Mail Box and Bldg/Room Location: CM1 7A07 Results Format Preferred (circle): PAPER DISK E-MAIL  
7E12

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*

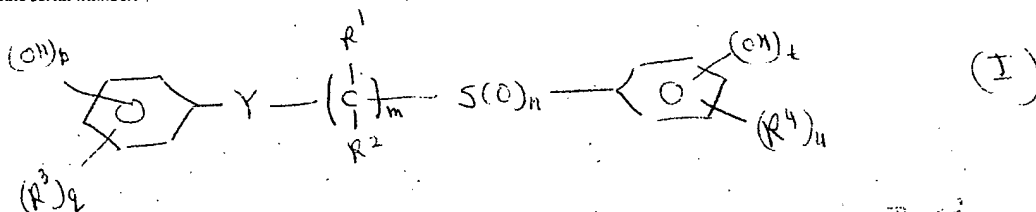
Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Phenol Compounds and Recording materials using the same

Inventors (please provide full names): Tomoya Hidaka et al

Earliest Priority Filing Date: 10/4/1999

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.



Y is CO or NR<sup>5</sup>CO

m is 1 to 6  
 n is 0 to 2  
 p q t are 0 to 3

Jan Delaval  
 Reference Librarian  
 Biotechnology & Chemical Library  
 CM1 1E07 - 703-308-4498  
 jan.delaval@uspto.gov

RECEIVED  
 FEB 25 2003  
 1616

See claims.

Also search Recording Material containing color forming dye characterized in that the recording material comprises at least one of the phenol compound represented by formula (I)

## STAFF USE ONLY

Searcher: [Signature]  
 Searcher Phone #: 4498  
 Searcher Location: \_\_\_\_\_  
 Date Searcher Picked Up: 3/21/03  
 Date Completed: 3/21/03  
 Searcher Prep & Review Time: \_\_\_\_\_  
 Clerical Prep Time: 20  
 Online Time: +50

## Type of Search

NA Sequence (#) \_\_\_\_\_  
 AA Sequence (#) \_\_\_\_\_  
 Structure (#) ✓  
 Bibliographic \_\_\_\_\_  
 Litigation \_\_\_\_\_  
 Fulltext \_\_\_\_\_  
 Patent Family \_\_\_\_\_  
 Other \_\_\_\_\_

## Vendors and cost where applicable

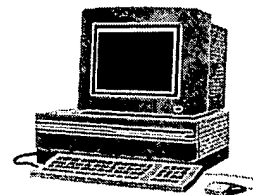
STN. ✓  
 Dialog \_\_\_\_\_  
 Questel/Orbit \_\_\_\_\_  
 Dr. Link \_\_\_\_\_  
 Lexis/Nexis \_\_\_\_\_  
 Sequence Systems \_\_\_\_\_  
 WWW/Internet \_\_\_\_\_  
 Other (specify) \_\_\_\_\_

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# BioTech-Chem Library

## Search Results

### Feedback Form (Optional)



Scientific & Technical Information Center

The search results generated for your recent request are attached. If you have any questions or comments (compliments or complaints) about the scope or the results of the search, please contact *the BioTech-Chem searcher* who conducted the search *or contact*:

**Mary Hale, Supervisor, 308-4258**  
CM-1 Room 1E01

---

#### *Voluntary Results Feedback Form*

➤ *I am an examiner in Workgroup:* (Example: 1610)

➤ *Relevant prior art found, search results used as follows:*

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

*Types of relevant prior art found:*

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature  
(journal articles, conference proceedings, new product announcements etc.)

➤ *Relevant prior art not found:*

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Search results were not useful in determining patentability or understanding the invention.

**Other Comments:**

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Drop off completed forms at the **Circulation Desk CM-1**, or send to Mary Hale, **CM1-1E01** or e-mail **mary.hale@uspto.gov**.

=> fil reg

FILE 'REGISTRY' ENTERED AT 10:42:35 ON 02 MAR 2003  
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Property values tagged with IC are from the ZIC/VINITI data file  
provided by InfoChem.

STRUCTURE FILE UPDATES: 28 FEB 2003 HIGHEST RN 496269-39-7  
DICTIONARY FILE UPDATES: 28 FEB 2003 HIGHEST RN 496269-39-7

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

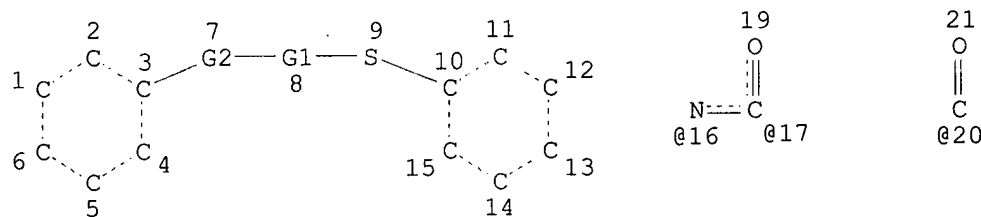
Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP  
PROPERTIES for more information. See STNote 27, Searching Properties  
in the CAS Registry File, for complete details:  
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=> d sta que 129

L16 STR

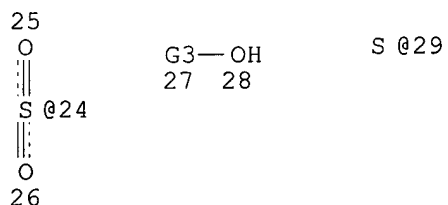
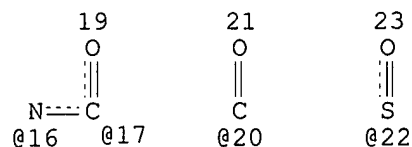
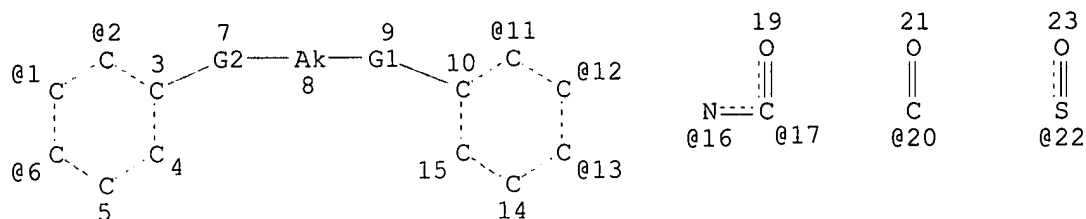


REP G1=(1-6) C  
VAR G2=20/16-3 17-8  
NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 20

STEREO ATTRIBUTES: NONE  
L18 8520 SEA FILE=REGISTRY SSS FUL L16  
L19 STR

Jan Delaval  
Reference Librarian  
Biotechnology & Chemical Library  
CM1 1E07 = 703-308-4498  
[jan.delaval@uspto.gov](mailto:jan.delaval@uspto.gov)



VAR G1=29/22/24

VAR G2=20/16-3 17-8

VAR G3=2/1/6/11/12/13

NODE ATTRIBUTES:

CONNECT IS E2 RC AT 8

CONNECT IS E3 RC AT 22

CONNECT IS E2 RC AT 29

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

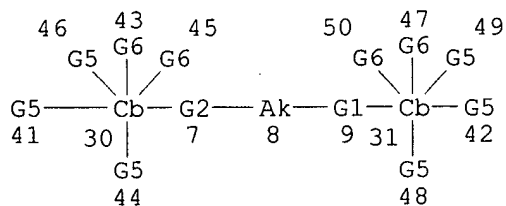
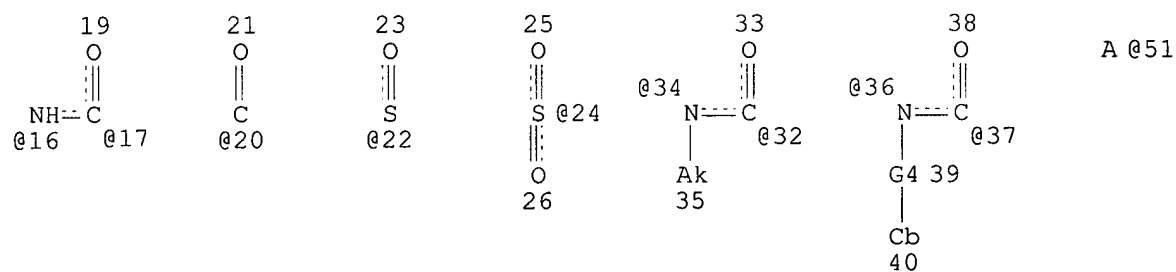
RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 28

STEREO ATTRIBUTES: NONE

L21 462 SEA FILE=REGISTRY SUB=L18 SSS FUL L19

L22 STR



VAR G1=S/22/24

VAR G2=20/16-30 17-8/34-30 32-8/36-30 37-8

REP G4=(0-1) AK

VAR G5=H/OH

VAR G6=H/51

NODE ATTRIBUTES:

CONNECT IS E2 RC AT 8

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CONNECT IS E3' RC AT 22
CONNECT IS M1 RC AT 40
CONNECT IS M1 RC AT 51
DEFAULT MLEVEL IS ATOM
GGCAT IS MCY UNS AT 30
GGCAT IS MCY UNS AT 31
GGCAT IS MCY UNS AT 40
DEFAULT ECLEVEL IS LIMITED
ECOUNT IS E6 C AT 40

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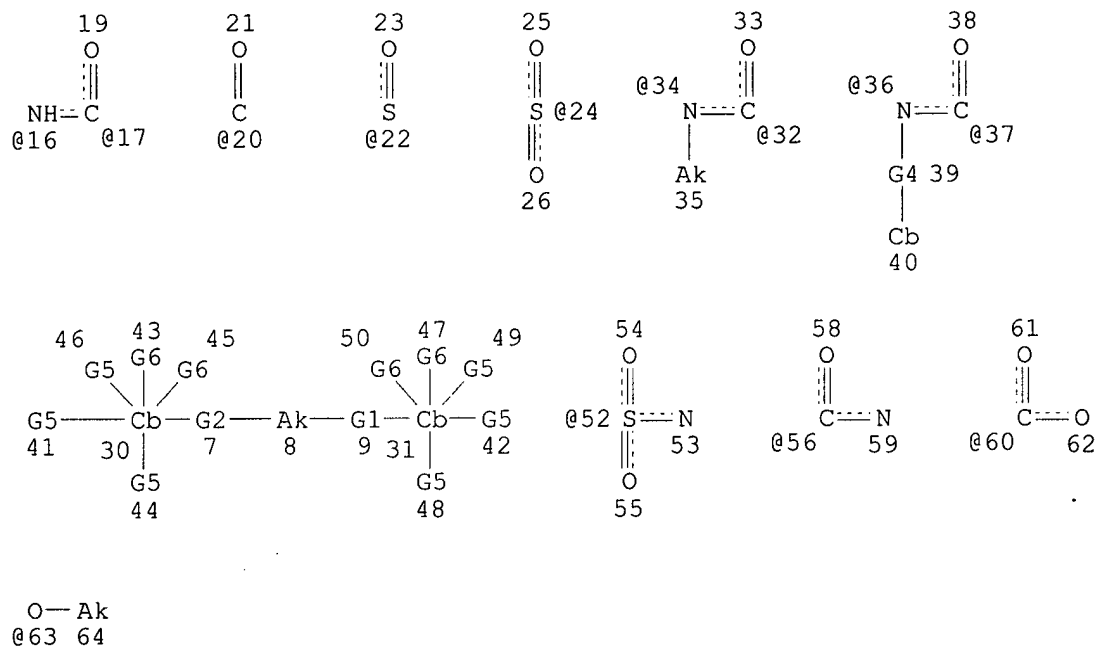
GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 35

STEREO ATTRIBUTES: NONE

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L24 SCR 1700 AND 1135
L26 415 SEA FILE=REGISTRY SUB=L21 CSS FUL L22 AND L24
L27 STR

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VAR G1=S/22/24
VAR G2=20/16-30 17-8/34-30 32-8/36-30 37-8
REP G4=(0-1) AK
VAR G5=H/OH
VAR G6=H/NO2/60/X/AK/63/56/52
NODE ATTRIBUTES:
CONNECT IS E2 RC AT 8
CONNECT IS E3 RC AT 22
CONNECT IS M1 RC AT 40
CONNECT IS M1 RC AT 53
CONNECT IS M1 RC AT 59
CONNECT IS M1 RC AT 62
DEFAULT MLEVEL IS ATOM
GGCAT IS MCY UNS AT 30
GGCAT IS MCY UNS AT 31
GGCAT IS MCY UNS AT 40
DEFAULT ECLEVEL IS LIMITED
ECOUNT IS E6 C AT 40

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GRAPH ATTRIBUTES:

RING(S)' ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 46

STEREO ATTRIBUTES: NONE

L29 170 SEA FILE=REGISTRY SUB=L26 CSS FUL L27

100.0% PROCESSED 415 ITERATIONS  
SEARCH TIME: 00.00.09

170 ANSWERS

=> d his

(FILE 'HOME' ENTERED AT 10:00:15 ON 02 MAR 2003)  
SET COST OFF

FILE 'HCAPLUS' ENTERED AT 10:00:57 ON 02 MAR 2003

L1 124 S E3,E49  
E HIDAKA T/AU  
E SATO S/AU  
L2 2154 S E3,E5,E193,E195,E197,E200,E201,E204  
E KAWAKAMI T/AU  
L3 301 S E3,E4,E10  
E TOMAYA H/AU  
E SHINICHI S/AU  
L4 1 S E6  
E TADASHI K/AU  
E WO2000-JP6892/AP, PRN  
L5 1 S E3,E4  
E JP2000-37488/AP, PRN  
L6 1 S E4  
E JP99-282577/AP, PRN  
L7 1 S E4  
L8 1 S L1-L4 AND L5-L7  
L9 1 S L5-L8  
E NIPPON SODA/PA, CS  
L10 3200 S E5-E63  
L11 3458 S (NIPPON(L) SODA) /PA, CS  
L12 1 S L9 AND L10, L11  
SEL RN

FILE 'REGISTRY' ENTERED AT 10:04:31 ON 02 MAR 2003

L13 12 S E1-E12  
L14 8 S L13 AND NR>=2  
L15 7 S L14 NOT C14H13NO2S  
L16 STR  
L17 50 S L16  
L18 8520 S L16 FUL  
SAV L18 KUMAR089/A  
L19 STR L16  
L20 23 S L19 SAM SUB=L18  
L21 462 S L19 FUL SUB=L18  
SAV L21 KUMAR089A/A  
L22 STR L19  
L23 23 S L22 CSS SAM SUB=L21  
L24 SCR 1700 AND 1135  
L25 23 S L22 AND L24 CSS SAM SUB=L21  
L26 415 S L22 AND L24 CSS FUL SUB=L21  
SAV L26 KUMAR089B/A  
L27 STR L22  
L28 9 S L27 CSS SAM SUB=L26  
L29 170 S L27 CSS FUL SUB=L26  
SAV L29 KUMAR089C/A

L30 '7 S L13 AND L29  
L31 163 S L29 NOT L30

FILE 'HCAOLD' ENTERED AT 10:26:57 ON 02 MAR 2003

L32 0 S L30  
L33 3 S L31  
SEL AN  
EDIT E13-E15 /AN /OREF

FILE 'HCAPLUS' ENTERED AT 10:27:48 ON 02 MAR 2003

L34 5 S E13-E15  
SEL DN 2 5  
L35 3 S L34 NOT E16-E17  
L36 1 S L30  
L37 68 S L31  
L38 1 S L36 AND L1-L12  
L39 2 S L37 AND L1-L12  
L40 3 S L38,L39  
L41 66 S L37 NOT L40  
L42 61 S L41 AND (PD<=20001004 OR PRD<=20001004 OR AD<=20001004)  
L43 10 S L42 AND (RADI? OR PHOTO?)/SC,SX  
E RECORDING/CT  
E E3+ALL  
L44 7 S L42 AND E2,E1+NT  
L45 2 S L40 AND E2,E1+NT  
E RECORDING MATERIAL/CT  
E E4+ALL  
L46 2 S L40 AND E3,E2+NT  
L47 3 S L42 AND E3,E2+NT  
L48 12 S L44-L47,L40  
E THERMAL PRINT/CT  
E E7+ALL  
L49 614 S E7,E6+NT  
E E14+ALL  
L50 20295 S E7,E5+NT  
E E18+ALL  
L51 4917 S E4,E3+NT  
L52 2 S L40 AND L49-L51  
L53 7 S L42 AND L49-L51  
L54 13 S L48,L52,L53,L43  
L55 16 S L35,L36,L40,L43-L48,L52-L54  
L56 16 S L55 AND L34-L55  
L57 13 S L56 AND (74 OR RADIAT? OR PHOTO? OR REPROG?)/SC,SX  
L58 3 S L56 NOT L57  
L59 32 S L42 AND P/DT  
L60 22 S L59 NOT L57  
L61 7 S L60 NOT (PHARMACO? OR PHARMACEUT?)/SC,SX  
L62 13 S L57 AND L1-L12,L34-L61  
SEL HIT RN

FILE 'REGISTRY' ENTERED AT 10:39:31 ON 02 MAR 2003

L63 47 S E1-E47  
L64 47 S L30,L63

FILE 'REGISTRY' ENTERED AT 10:42:35 ON 02 MAR 2003

=> fil hcaplus

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FILE COVERS 1907 - 2 Mar 2003 VOL 138 ISS 10  
FILE LAST UPDATED: 28 Feb 2003 (20030228/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d 162 all hitstr tot

L62 ANSWER 1 OF 13 HCAPLUS COPYRIGHT 2003 ACS  
AN 2002:793538 HCAPLUS  
DN 137:317960  
TI Heat-sensitive recording material containing specific dispersant for color developer and recording sheet containing the same  
IN **Kawakami, Tadashi; Sato, Shinichi**  
PA **Nippon Soda Co., Ltd., Japan**  
SO PCT Int. Appl., 40 pp.  
CODEN: PIXXD2  
DT Patent  
LA Japanese  
IC ICM B41M005-30  
ICS C08J007-04  
CC **74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)**  
FAN.CNT 1  
PATENT NO. KIND DATE APPLICATION NO. DATE  
-----  
PI WO 2002081229 A1 20021017 WO 2002-JP3159 20020329  
W: AU, BR, CN, JP, KR, US  
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR  
PRAI JP 2001-106364 A 20010404  
JP 2001-244785 A 20010810  
OS MARPAT 137:317960  
GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The invention relates to a recording material and a recording sheet free from surface fogging and excellent in dynamic coloring sensitivity, wet heat resistance, heat resistance, light resistance, plasticizer resistance, and water resistance. A recording material comprises a compn. contg. at least one kind of a compd. I and at least one kind of a compd. II and/or at least one kind a compd. III ( R1-2, R6-7, R11-12= H, alkyl; a1-3 = 1-6 integer; n1-3 = 0, 1,2; m1, m4, m7 = 0, 1,2,3; R3-4, R8-9, . R13-14 = alkyl; m2-3, m5-6, m8-9 = 0, 1,2; Y1-3 = Co, NRCO; R = H, etc.) and a recording sheet having a recording layer formed from the recording material. Compd. I, Compd. II, and Compd. III.  
ST heat sensitive recording sheet  
IT **Thermal printing materials**



**Thermographic copying**

(paper; heat-sensitive recording material and recording sheet contg. same)

IT **Paper**(thermal printing; heat-sensitive **recording** material and **recording** sheet contg. same)IT **Copying paper**

(thermog.; heat-sensitive recording material and recording sheet contg. same)

IT 79-04-9, Chloroacetyl chloride 95-55-6, 2-Aminophenol 123-30-8, 4-Aminophenol 591-27-5, 3-Aminophenol 637-89-8, 4-Mercaptophenol

RL: RCT (Reactant); RACT (Reactant or reagent)

(dispersant for color developer; heat-sensitive recording material and recording sheet contg. same)

IT 10147-68-9P, Acetamide, 2-chloro-N-(2-hydroxyphenyl)-

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(dispersant for color developer; heat-sensitive recording material and recording sheet contg. same)

IT **443965-79-5P**, Acetamide, N-(4-hydroxyphenyl)-2-[(4-hydroxyphenyl)thio]- **443965-81-9P 471278-71-4P**

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(dispersant for color developer; heat-sensitive recording material and recording sheet contg. same)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Eli Lilly And Co; US 4075227 A 1978 HCAPLUS

(2) Fuji Photo Film Co Ltd; JP 63-153182 A 1988 HCAPLUS

(3) Mitsubishi Paper Mills Ltd; JP 03-293195 A 1991 HCAPLUS

(4) Nippon Soda Co Ltd; WO 0125193 A1 2001 HCAPLUS

(5) Nippon Soda Co Ltd; AU 200075555 A 2001

(6) Nippon Soda Co Ltd; JP 2001288163 A 2001 HCAPLUS

(7) Ricoh Co Ltd; JP 02-293195 A 1990

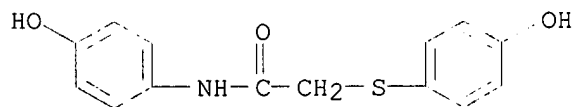
IT **443965-79-5P**, Acetamide, N-(4-hydroxyphenyl)-2-[(4-hydroxyphenyl)thio]- **443965-81-9P 471278-71-4P**

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(dispersant for color developer; heat-sensitive recording material and recording sheet contg. same)

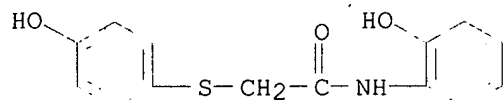
RN 443965-79-5 HCAPLUS

CN Acetamide, N-(4-hydroxyphenyl)-2-[(4-hydroxyphenyl)thio]- (9CI) (CA INDEX NAME)



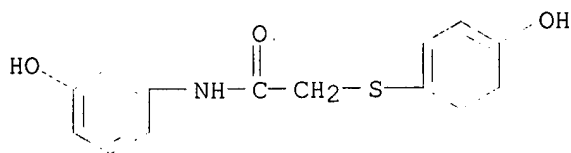
RN 443965-81-9 HCAPLUS

CN Acetamide, N-(2-hydroxyphenyl)-2-[(4-hydroxyphenyl)thio]- (9CI) (CA INDEX NAME)



RN 471278-71-4 HCAPLUS

CN Acetamide, N-(3-hydroxyphenyl)-2-[(4-hydroxyphenyl)thio]- (9CI) (CA INDEX NAME)



L62 ANSWER 2 OF 13 HCAPLUS COPYRIGHT 2003 ACS

AN 2002:707115 HCAPLUS

DN 137:255357

TI Thermal recording material comprising leuco dye and developer and thermal recording sheet containing it

IN Sato, Shinichi; Fujii, Hiroshi; Hidaka, Tomoya; Kawakami, Tadashi

PA Nippon Soda Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM B41M005-30

ICS B41M005-155

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002264538	A2	20020918	JP 2001-69031	20010312
PRAI	JP 2001-69031		20010312		
OS	MARPAT 137:255357				
GI					

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The material contains .gtoreq.1 leuco dye, .gtoreq.1 of I [R1, R2 = H, C1-6 alkyl; a = 1-6; b = 0, 1, 2; m1, m2 = 0, 1-3; R3, R4 = NO2, CO2H, halo, C1-6 alkyl, C2-6 alkenyl; m3, m4 = 0, 1, 2; M = CO, NR5CO (R5 = H, C1-6 alkyl)], and .gtoreq.1 of II [X, Y = (substituted) C1-12 (un)satd. hydrocarbon; C1-12 (un)satd. hydrocarbon which may have ether linkage, Q1, -CH2CR13(OH)CH2- (R12 = methylene, ethylene; R13 = H, C1-4 alkyl); R6-11 = halo, C1-6 alkyl, C2-6 alkenyl; n1-6 = 0, 1-4; c = 0, 1-10]. The sheet comprises a support having thereon a recording layer contg. the obtained material. The material showed improved sensitivity and humidity, heat, and plasticizer resistance, preventing fogging in non-image areas.

ST thermal printing material color developer phenylthio compd;  
diphenylsulfone compd color developer aid

IT **Thermal printing materials**

(thermal printing material contg. phenylthio compd. color developer and diphenylsulfone deriv. color developer aid)

IT 29239-85-8 190078-71-8

RL: TEM (Technical or engineered material use); USES (Uses)

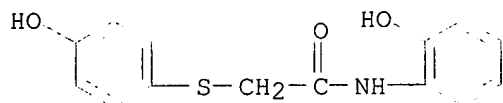
(color developer aid; thermal printing material contg. phenylthio compd. color developer and diphenylsulfone deriv. color developer aid)

IT **443965-81-9**

RL: TEM (Technical or engineered material use); USES (Uses)

(color developer; thermal printing material contg. phenylthio compd.)

color developer and diphenylsulfone deriv. color developer aid)  
 IT 443965-81-9  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (color developer; thermal printing material contg. phenylthio compd.  
 color developer and diphenylsulfone deriv. color developer aid)  
 RN 443965-81-9 HCAPLUS  
 CN Acetamide, N-(2-hydroxyphenyl)-2-[(4-hydroxyphenyl)thio]- (9CI) (CA INDEX  
 NAME)

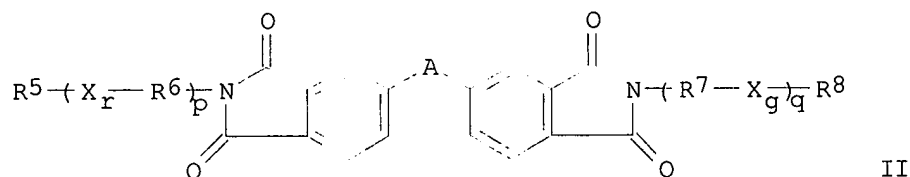
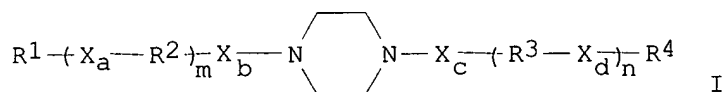


L62 ANSWER 3 OF 13 HCAPLUS COPYRIGHT 2003 ACS  
 AN 2002:126303 HCAPLUS  
 DN 136:191709  
 TI Reversible thermal printing material containing imide compound as  
 decoloration accelerator  
 IN Sano, Hidekazu; Maruyama, Atsushi  
 PA Mitsubishi Paper Mills, Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 16 pp.  
 CODEN: JKXXAF

DT Patent  
 LA Japanese  
 IC ICM B41M005-26  
 CC 74-6 (Radiation Chemistry, Photochemistry,  
 and Photographic and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002052826	A2	20020219	JP 2000-238429	20000807 <--
PRAI	JP 2000-238429		20000807 <--		
OS	MARPAT 136:191709				
GI					



AB In the material comprising a support coated with a layer contg. a dye precursor and a reversible color developer which causes color change to the dye precursor according to the cooling rate after heating, the layer contains .gtoreq.1 of I, II, and M(R9Xh)rR10 (Xa, Xd, Xf, Xg, Xh = O, S, divalent group contg. CONH as a min. unit without terminal hydrocarbyl group; Xb, Xc = divalent group contg. CO as a min. unit without terminal hydrocarbyl group; R1, R4, R5, R8, R10 = C1-24 hydrocarbyl; R2-3, R6-7, R9 = C1-18 hydrocarbylene; m, n, p, q= 0-3; r = 1-4) as a decoloration

accelerator. The material gives high contrast images with good storage stability and erasability.

ST reversible thermal printing material imide decoloration accelerator; amide compd decoloration accelerator thermal printing

IT **Thermal printing materials**

(reversible thermal printing material contg. amide or imide compd. as decoloration accelerator)

IT 102253-20-3 166890-56-8 166890-65-9 166890-94-4 181637-82-1  
201793-52-4 269398-16-5 393110-58-2 393110-59-3 393110-60-6  
393110-61-7 396113-78-3 400008-72-2 **400008-73-3**

RL: TEM (Technical or engineered material use); USES (Uses)

(color developer; reversible thermal printing material contg. amide or imide compd. as decoloration accelerator)

IT 396113-83-0

RL: TEM (Technical or engineered material use); USES (Uses)

(color developer; reversible thermal printing material contg. imide compd. as decoloration accelerator)

IT 110-85-0, Piperazine, reactions 112-76-5, Stearyl chloride 112-96-9, Octadecyl isocyanate 120-43-4, Ethyl 1-piperazinecarboxylate 123-56-8, Succinimide 124-30-1, Stearylamine 1823-59-2, 4,4'-Oxydiphthalic anhydride 400008-74-4 400008-75-5

RL: RCT (Reactant); RACT (Reactant or reagent)

(prepn. of amide or imide compd. decoloration accelerator)

IT 53575-22-7P 343871-31-8P 400008-60-8P 400008-61-9P

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(reversible thermal printing material contg. amide or imide compd. as decoloration accelerator)

IT 400008-63-1 400008-64-2 400008-65-3 400008-66-4 400008-67-5  
400008-68-6 400008-69-7 400008-70-0 400008-71-1

RL: TEM (Technical or engineered material use); USES (Uses)

(reversible thermal printing material contg. amide or imide compd. as decoloration accelerator)

IT 400008-62-0P

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(reversible thermal printing material contg. imide compd. as decoloration accelerator)

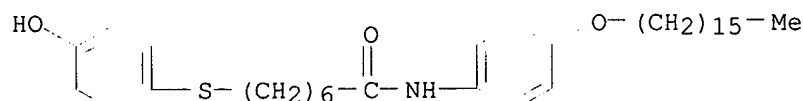
IT **400008-73-3**

RL: TEM (Technical or engineered material use); USES (Uses)

(color developer; reversible thermal printing material contg. amide or imide compd. as decoloration accelerator)

RN 400008-73-3 HCAPLUS

CN Heptanamide, N-[4-(hexadecyloxy)phenyl]-7-[(4-hydroxyphenyl)thio]- (9CI)  
(CA INDEX NAME)



L62 ANSWER 4 OF 13 HCAPLUS COPYRIGHT 2003 ACS

AN 2001:265378 HCAPLUS

DN 134:303088

TI Phenolic compounds in heat-sensitive or pressure-sensitive recording materials

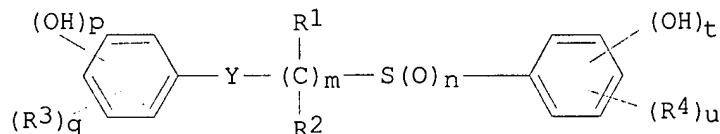
IN Hidaka, Tomoya; Sato, Shinichi; Kawakami, Tadashi

PA Nippon Soda Co., Ltd., Japan

SO PCT Int. Appl., 45 pp.

CODEN: PIXXD2  
 DT Patent  
 LA Japanese  
 IC ICM C07C317-22  
 ICS C07C317-32; C07C317-46; C07C323-20; C07C323-29; C07C323-51;  
 C07C317-24; C07C323-22; C09B067-20; B41M005-30  
 CC 74-7 (Radiation Chemistry, Photochemistry,  
 and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 25  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001025193	A1	20010412	WO 2000-JP6892	20001004 <--
	W: AU, BR, CN, JP, KR, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	AU 2000075555	A5	20010510	AU 2000-75555	20001004 <--
	EP 1219598	A1	20020703	EP 2000-964635	20001004 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
	BR 2000014494	A	20020820	BR 2000-14494	20001004 <--
PRAI	JP 1999-282577	A	19991004	<--	
	JP 2000-37488	A	20000216	<--	
	WO 2000-JP6892	W	20001004	<--	
OS	MARPAT 134:303088				
GI					



I

AB The title phenolic compds. has general formula I (R1-2 = H, C1-6 alkyl; m = 1-6 integer; n = 0-2 integer; p, t = 0-3 integer; R3-4 = nitro, carboxyl, halo, C1-6 alkyl; q, u = 0-2 integer; Y = CO, NHCO.) and functions as a color developing agent. The recording materials contg. the phenolic compd. exhibits the good light-resistance and shows the excellent storageability.

ST phenolic compd heat sensitive pressure recording

IT Phenols, preparation  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (compds.; phenolic compds. in heat-sensitive or pressure-sensitive recording materials)

IT **Printing (impact)**  
**Recording materials**  
**Thermographic copying**  
 (phenolic compds. in heat-sensitive or pressure-sensitive recording materials)

IT 75-18-3, Dimethyl sulfide 637-89-8, 4-Mercaptophenol 14140-15-9, 4-Hydroxyphenethyl bromide 30004-50-3, Acetanilide, 2'-[(p-hydroxyphenyl)thio]- 57027-75-5, 2-Hydroxyphenethyl bromide  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (phenolic compd. used in heat-sensitive or pressure-sensitive recording material as color developing agent)

IT 333957-79-2P 333957-80-5P 333957-81-6P  
 333957-82-7P 333957-83-8P 333957-84-9P  
 333957-85-0P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(phenolic compd. used in heat-sensitive or pressure-sensitive recording material as color developing agent)

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Atherogenics Inc; WO 0028332 A1 2000 HCAPLUS
- (2) Dainippon Ink And Chemicals Inc; JP 229382 A
- (3) Dainippon Ink And Chemicals Inc; US 4988662 A 1991 HCAPLUS
- (4) Eli Lilly And Company; JP 5253852 A
- (5) Eli Lilly And Company; US 4075227 A 1978 HCAPLUS
- (6) G D Searle & Co; US 5071876 A HCAPLUS
- (7) G D Searle & Co; JP 61197554 A HCAPLUS
- (8) G D Searle & Co; EP 190682 A2 1986 HCAPLUS
- (9) Mitsubishi Paper Mills Ltd; JP 03293195 A 1991 HCAPLUS
- (10) Ricoh Company Ltd; JP 6472891 A 1989
- (11) Ricoh Company Ltd; JP 02204091 A 1990 HCAPLUS
- (12) Taisho Pharmaceutical Co Ltd; JP 04173775 A 1992 HCAPLUS
- (13) Taisho Pharmaceutical Co Ltd; WO 9207825 A1 1992 HCAPLUS
- (14) Toyo Gosei Kogyo K K; JP 04217657 A 1992 HCAPLUS

IT 333957-79-2P 333957-80-5P 333957-81-6P

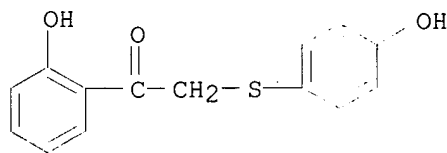
333957-82-7P 333957-83-8P 333957-84-9P

333957-85-0P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(phenolic compd. used in heat-sensitive or pressure-sensitive recording material as color developing agent)

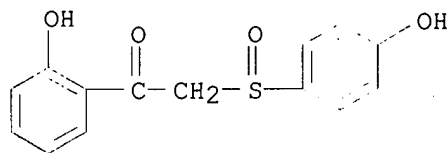
RN 333957-79-2 HCAPLUS

CN Ethanone, 1-(2-hydroxyphenyl)-2-[(4-hydroxyphenyl)thio]- (9CI) (CA INDEX NAME)



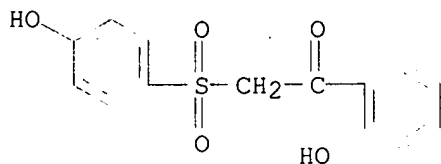
RN 333957-80-5 HCAPLUS

CN Ethanone, 1-(2-hydroxyphenyl)-2-[(4-hydroxyphenyl)sulfinyl]- (9CI) (CA INDEX NAME)

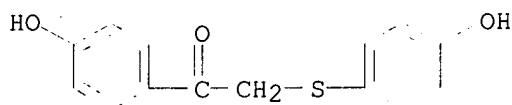


RN 333957-81-6 HCAPLUS

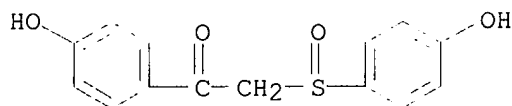
CN Ethanone, 1-(2-hydroxyphenyl)-2-[(4-hydroxyphenyl)sulfonyl]- (9CI) (CA INDEX NAME)



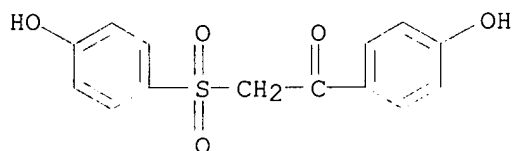
RN 333957-82-7 HCAPLUS  
 CN Ethanone, 1-(4-hydroxyphenyl)-2-[(4-hydroxyphenyl)thio]- (9CI) (CA INDEX NAME)



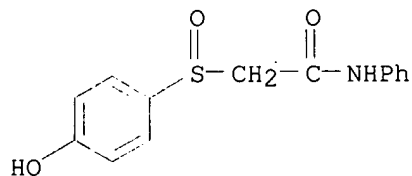
RN 333957-83-8 HCAPLUS  
 CN Ethanone, 1-(4-hydroxyphenyl)-2-[(4-hydroxyphenyl)sulfinyl]- (9CI) (CA INDEX NAME)



RN 333957-84-9 HCAPLUS  
 CN Ethanone, 1-(4-hydroxyphenyl)-2-[(4-hydroxyphenyl)sulfonyl]- (9CI) (CA INDEX NAME)



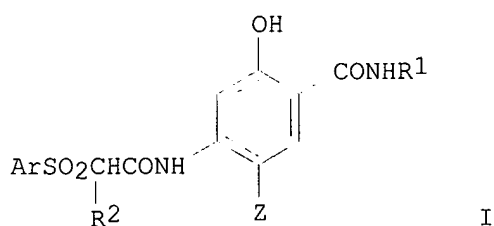
RN 333957-85-0 HCAPLUS  
 CN Acetamide, 2-[(4-hydroxyphenyl)sulfinyl]-N-phenyl- (9CI) (CA INDEX NAME)



L62 ANSWER 5 OF 13 HCAPLUS COPYRIGHT 2003 ACS  
 AN 1997:656873 HCAPLUS  
 DN 127:324412  
 TI Photographic elements containing new cyan dye-forming coupler providing improved color reproduction  
 IN Lau, Philip T.; Rossi, Louis J.; Cowan, Stanley W.  
 PA Eastman Kodak Company, USA

SO U.S., 14 pp.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 IC ICM G03C007-34  
 NCL 430384000  
 CC 74-2 (Radiation Chemistry, Photochemistry,  
 and Photographic and Other Reprographic Processes)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5674666	A	19971007	US 1996-742784	19961031 <--
PRAI	US 1996-742784		19961031 <--		
OS	MARPAT 127:324412				
GI					



AB The invention provides photog. elements which comprise a light-sensitive silver halide emulsion layer having assocd. therewith a cyan dye-forming coupler having the formula I (R1 = alkyl, aryl; R2 = C2-4 alkyl; Ar = aryl; Z = H or a group capable of being split off by reaction of the coupler with an oxidized color developing agent). Such elements provide an improved cyan dye hue upon development.

ST photog element hydroxybenzamide cyan coupler

IT **Cyan couplers**  
 (hydroxybenzamide derivs. for photog. elements providing improved color reprodn.)

IT 197566-37-3 197566-38-4 197566-39-5  
 197566-40-8  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (cyan photog. coupler in photog. elements providing improved color reprodn.)

IT 78154-65-1  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (prepn. and reaction in prepn. of hydroxybenzamide deriv. cyan photog. coupler)

IT 197566-34-0P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (prepn. and reaction in prepn. of hydroxybenzamide deriv. cyan photog. coupler)

IT 197566-36-2P  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (prepn. and use as cyan photog. coupler in photog. elements providing improved color reprodn.)

IT 62-53-3, Benzenamine, reactions 1333-74-0, Hydrogen, reactions.  
 62350-74-7, Phenyl 4-nitrosalicylate 197566-35-1  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction in prepn. of hydroxybenzamide deriv. cyan photog. coupler)

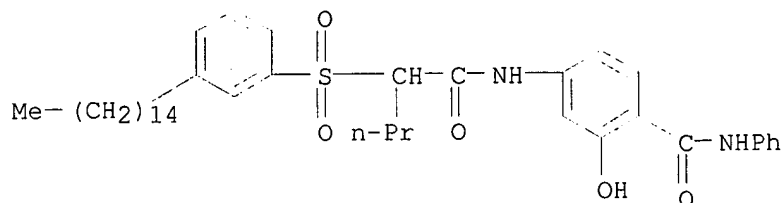
IT 197566-37-3 197566-38-4 197566-39-5  
 197566-40-8



RL: TEM (Technical or engineered material use); USES (Uses)  
(cyan photog. coupler in photog. elements providing improved color  
reprodn.)

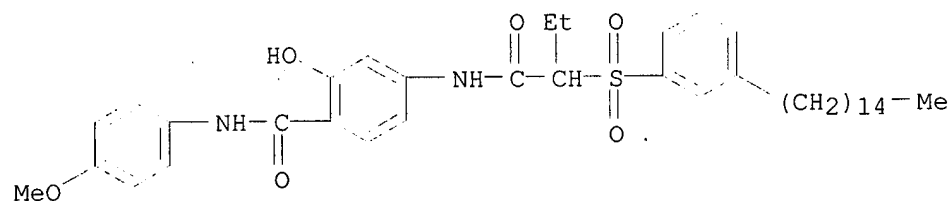
RN 197566-37-3 HCAPLUS

CN Benzamide, 2-hydroxy-4-[[1-oxo-2-[(3-pentadecylphenyl)sulfonyl]pentyl]amino  
o]-N-phenyl- (9CI) (CA INDEX NAME)



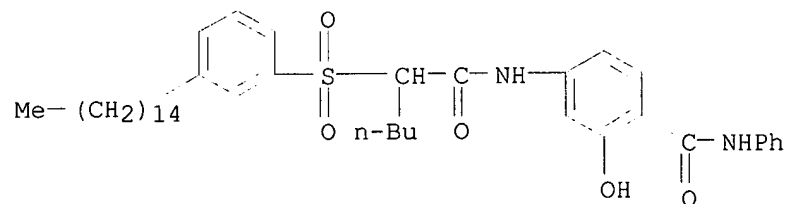
RN 197566-38-4 HCAPLUS

CN Benzamide, 2-hydroxy-N-(4-methoxyphenyl)-4-[[1-oxo-2-[(3-pentadecylphenyl)sulfonyl]butyl]amino]- (9CI) (CA INDEX NAME)



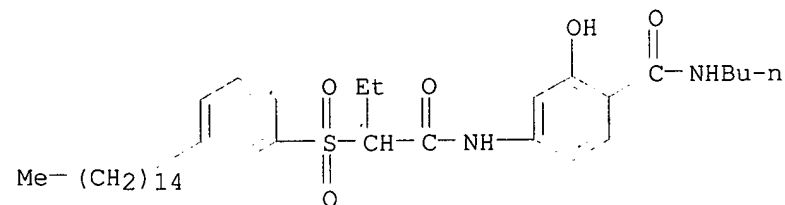
RN 197566-39-5 HCAPLUS

CN Benzamide, 2-hydroxy-4-[[1-oxo-2-[(3-pentadecylphenyl)sulfonyl]hexyl]amino  
]-N-phenyl- (9CI) (CA INDEX NAME)



RN 197566-40-8 HCAPLUS

CN Benzamide, N-butyl-2-hydroxy-4-[[1-oxo-2-[(3-pentadecylphenyl)sulfonyl]butyl]amino]- (9CI) (CA INDEX NAME)



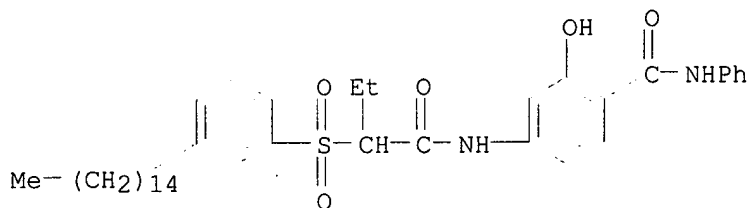
IT 197566-36-2P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material

use); PREP (Preparation); USES (Uses)  
(prepn. and use as cyan photog. coupler in photog. elements providing improved color reprodn.)

RN 197566-36-2 HCAPLUS

CN Benzamide, 2-hydroxy-4-[[1-oxo-2-[(3-pentadecylphenyl)sulfonyl]butyl]amino]-N-phenyl- (9CI) (CA INDEX NAME)



L62 ANSWER 6 OF 13 HCAPLUS COPYRIGHT 2003 ACS

AN 1993:191363 HCAPLUS

DN 118:191363

TI Preparation of 4-(N-arylcarbamoylalkylthio)phenol compounds as developing agents and heat-sensitive recording materials using them

IN Iida, Hirotada; Tokuda, Katsuyo

PA Toyo Gosei Kogyo Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 15 pp.

CODEN: JKXXAF

DT **Patent**

LA Japanese

IC ICM C07C323-60

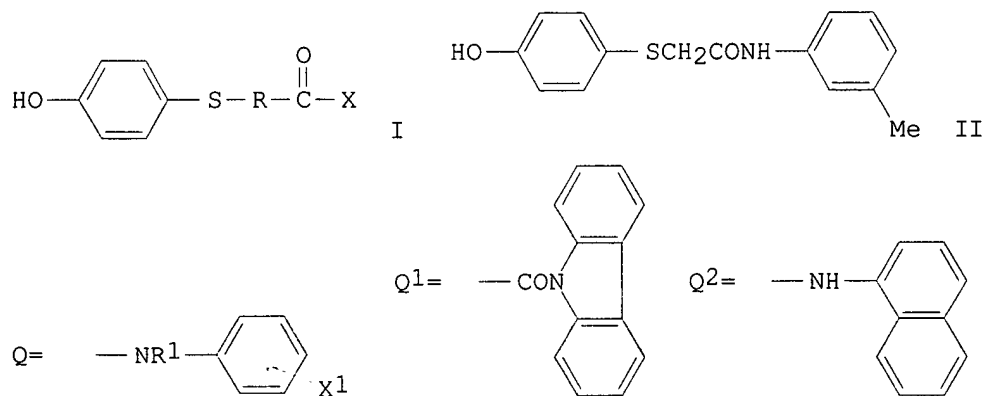
ICS B41M005-30; C07D209-86

CC 25-24 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)

Section cross-reference(s): 27, 74

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04217657	A2	19920807	JP 1991-27148	19910221 <--
PRAI	JP 1990-279269		19901019 <--		
OS	MARPAT 118:191363				
GI					



AB The title compds. (I; X = Q, Q1, Q2; X1 = H, Cl, lower alkyl, lower alkoxy; R = Cl-17 alkylene; R1 = H, lower alkyl, Ph) are prepd. A heat-sensitive recording material contains I as an electron-accepting compd. which colors a colorless or light-colored electron-donating dye

upon contacting and reacting under heating. I provide a heat-sensitive material of high sensitivity and high performance which is suitable for high-d. and high-speed recording. Thus, acylation of m-toluidine with  $\text{ClCH}_2\text{COCl}$  in benzene contg.  $\text{Et}_3\text{N}$  and thioetherification of the resulting N-(3-methylphenyl)chloroacetamide with 4-mercaptophenol in MeOH contg. NaOH gave a title compd. (II).

ST arylcarbamoylethylthiophenol prepn developing agent; heat sensitive recording material

IT **Printing, nonimpact**

(thermal, developing agents for,  
(arylcarbamoylethylthio)phenol compds. as)

IT 146332-91-4P 146332-92-5P 146332-93-6P  
146332-94-7P 146332-95-8P 146332-96-9P  
146332-97-0P 146332-98-1P 146332-99-2P  
146333-00-8P 146333-01-9P 146333-02-0P  
146333-03-1P 146333-04-2P 146333-05-3P  
146333-06-4P 146333-07-5P 146333-08-6P 146333-09-7P  
146333-10-0P 146333-11-1P 146333-12-2P

RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of, as developing agent for thermal recording material)

IT 32428-61-8, N-(3-Methylphenyl)chloroacetamide 146333-13-3

RL: RCT (Reactant); RACT (Reactant or reagent)

(prepn. of, as intermediate for mercaptophenol thermal recording material)

IT 62-53-3, Aniline, reactions 79-04-9, Chloroacetyl chloride 108-44-1,  
reactions 637-89-8, 4-Mercaptophenol 1611-83-2 2620-05-5 5428-43-3  
22302-62-1 22447-06-9 23210-23-3 38002-61-8, N-Chloroacetylcarbazole  
39086-61-8 146333-14-4 146669-67-2, .alpha.-Bromocaproic acid  
potassium salt

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, in prepn. of mercaptophenol thermal recording material)

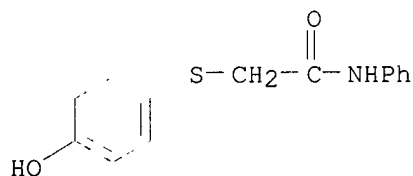
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146332-94-7P 146332-95-8P 146332-96-9P  
146332-97-0P 146332-98-1P 146332-99-2P  
146333-00-8P 146333-01-9P 146333-02-0P  
146333-03-1P 146333-04-2P 146333-05-3P  
146333-06-4P

RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of, as developing agent for thermal recording material)

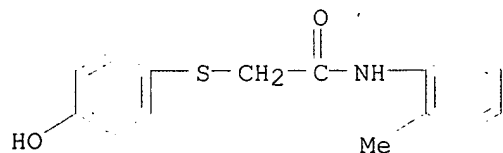
RN 146332-91-4 HCAPLUS

CN Acetamide, 2-[(4-hydroxyphenyl)thio]-N-phenyl- (9CI) (CA INDEX NAME)

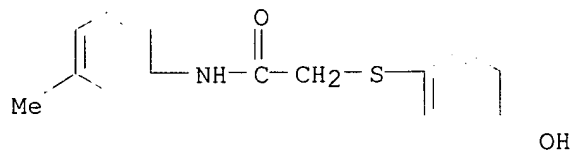


RN 146332-92-5 HCAPLUS

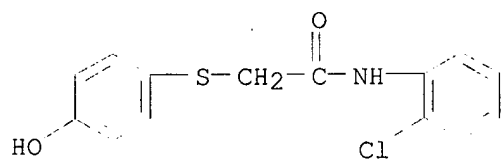
CN Acetamide, 2-[(4-hydroxyphenyl)thio]-N-(2-methylphenyl)- (9CI) (CA INDEX NAME)



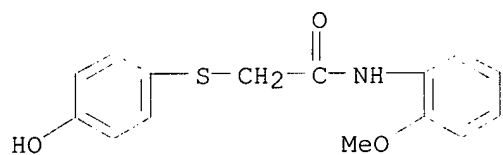
RN 146332-93-6 HCAPLUS  
 CN Acetamide, 2-[(4-hydroxyphenyl)thio]-N-(3-methylphenyl)- (9CI) (CA INDEX NAME)



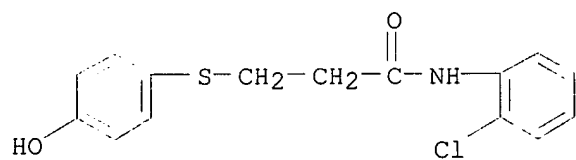
RN 146332-94-7 HCAPLUS  
 CN Acetamide, N-(2-chlorophenyl)-2-[(4-hydroxyphenyl)thio]- (9CI) (CA INDEX NAME)



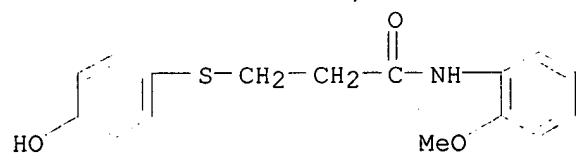
RN 146332-95-8 HCAPLUS  
 CN Acetamide, 2-[(4-hydroxyphenyl)thio]-N-(2-methoxyphenyl)- (9CI) (CA INDEX NAME)



RN 146332-96-9 HCAPLUS  
 CN Propanamide, N-(2-chlorophenyl)-3-[(4-hydroxyphenyl)thio]- (9CI) (CA INDEX NAME)

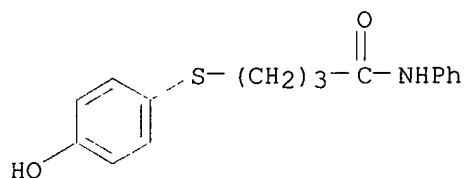


RN 146332-97-0 HCAPLUS  
 CN Propanamide, 3-[(4-hydroxyphenyl)thio]-N-(2-methoxyphenyl)- (9CI) (CA INDEX NAME)



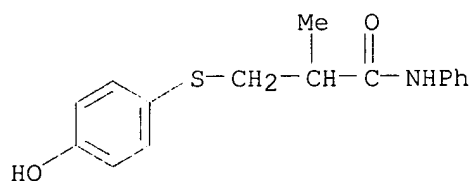
RN 146332-98-1 HCAPLUS

CN Butanamide, 4-[(4-hydroxyphenyl)thio]-N-phenyl- (9CI) (CA INDEX NAME)



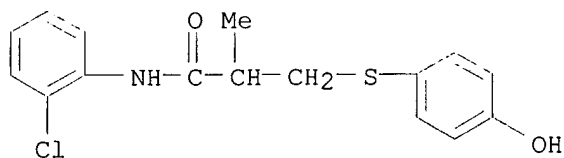
RN 146332-99-2 HCAPLUS

CN Propanamide, 3-[(4-hydroxyphenyl)thio]-2-methyl-N-phenyl- (9CI) (CA INDEX NAME)



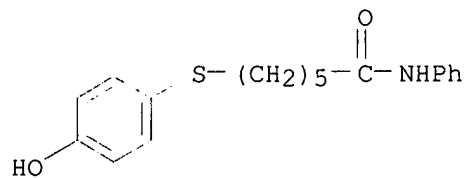
RN 146333-00-8 HCAPLUS

CN Propanamide, N-(2-chlorophenyl)-3-[(4-hydroxyphenyl)thio]-2-methyl- (9CI) (CA INDEX NAME)



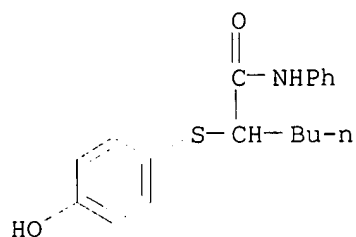
RN 146333-01-9 HCAPLUS

CN Hexanamide, 6-[(4-hydroxyphenyl)thio]-N-phenyl- (9CI) (CA INDEX NAME)

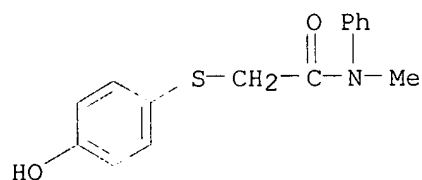


RN 146333-02-0 HCAPLUS

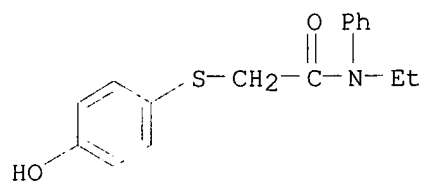
CN Hexanamide, 2-[(4-hydroxyphenyl)thio]-N-phenyl- (9CI) (CA INDEX NAME)



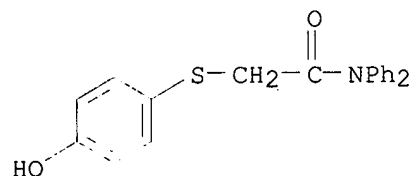
RN 146333-03-1 HCAPLUS  
 CN Acetamide, 2-[(4-hydroxyphenyl)thio]-N-methyl-N-phenyl- (9CI) (CA INDEX NAME)



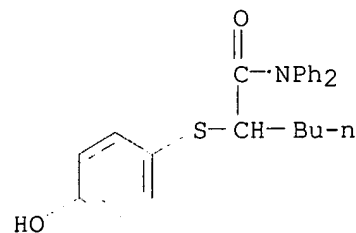
RN 146333-04-2 HCAPLUS  
 CN Acetamide, N-ethyl-2-[(4-hydroxyphenyl)thio]-N-phenyl- (9CI) (CA INDEX NAME)



RN 146333-05-3 HCAPLUS  
 CN Acetamide, 2-[(4-hydroxyphenyl)thio]-N,N-diphenyl- (9CI) (CA INDEX NAME)

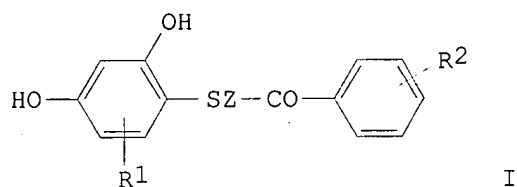


RN 146333-06-4 HCAPLUS  
 CN Hexanamide, 2-[(4-hydroxyphenyl)thio]-N,N-diphenyl- (9CI) (CA INDEX NAME)



L62 ANSWER 7 OF 13 HCAPLUS COPYRIGHT 2003 ACS  
 AN 1992:417412 HCAPLUS  
 DN 117:17412  
 TI Thermal recording material using dihydroxyphenylthio-compound color developer  
 IN Ikeda, Mitsuhiro; Horiuchi, Tamotsu; Koike, Naomasa  
 PA Mitsubishi Paper Mills, Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DT **Patent**  
 LA Japanese  
 IC ICM B41M005-30  
 CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03293195	A2	19911224	JP 1990-95628	19900411 <--
PRAI	JP 1990-95628		19900411 <--		
OS	MARPAT 117:17412				
GI					



AB The title materials contain a colorless dye precursor and, as an electron-accepting compd., a hydroxyphenylthio-compd. I (R1 = H, C1-5 alkyl, alkoxy; R2 = H, C1-5 alkyl, halo, alkoxy, aryl; Z = alkylene). A thermal recording paper using 3-dibutylamino-6-methyl-7-anilinofluoran and I (R = R1 = H, Z = CH2) showed good heat response and gave high d. images.

ST thermal recording material color developer; hydroxyphenylthio compd thermal recording material

IT **Printing, nonimpact**  
 (thermal, materials for, contg. dihydroxyphenylthio compd. as color-developer)

IT **142022-51-3 142022-52-4**  
 RL: USES (Uses)  
 (color-developer, thermal recording material using)

IT **142022-50-2P**  
 RL: PREP (Preparation)  
 (prepn. of, color-developer, thermal recording material using)

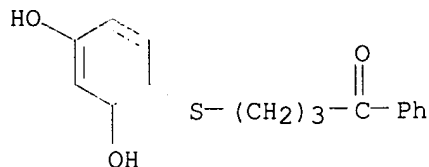
IT 532-27-4, Phenacyl chloride  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with mercaptioresorcinol)

IT 2553-70-0, 4-Mercaptioresorcinol  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with phenacyl chloride)

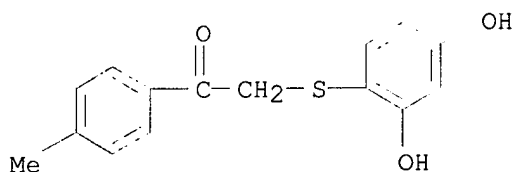
IT **142022-51-3 142022-52-4**  
 RL: USES (Uses)  
 (color-developer, thermal recording material using)

RN 142022-51-3 HCAPLUS

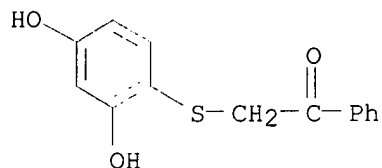
CN 1-Butanone, 4-[(2,4-dihydroxyphenyl)thio]-1-phenyl- (9CI) (CA INDEX NAME)



RN 142022-52-4 HCAPLUS  
 CN Ethanone, 2-[(2,4-dihydroxyphenyl)thio]-1-(4-methylphenyl)- (9CI) (CA INDEX NAME)



IT 142022-50-2P  
 RL: PREP (Preparation)  
 (prepn. of, color-developer, thermal recording material using)  
 RN 142022-50-2 HCAPLUS  
 CN Ethanone, 2-[(2,4-dihydroxyphenyl)thio]-1-phenyl- (9CI) (CA INDEX NAME)



L62 ANSWER 8 OF 13 HCAPLUS COPYRIGHT 2003 ACS  
 AN 1991:92023 HCAPLUS  
 DN 114:92023  
 TI Thermal printing materials  
 IN Furuya, Hiromi; Hayakawa, Kunio; Shimada, Hisahiro  
 PA Ricoh Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 9 pp.  
 CODEN: JKXXAF

DT **Patent**  
 LA Japanese  
 IC ICM B41M005-30  
 CC 74-12 (Radiation Chemistry, Photochemistry,  
 and Photographic and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 02204091	A2	19900814	JP 1989-24956	19890203 <--
	JP 2887288	B2	19990426		
PRAI	JP 1989-24956		19890203 <--		

GI For diagram(s), see printed CA Issue.

AB The title materials utilizing reactions between leuco dyes and developers contain, as developers, phenols I or II [R1-2 = alkyl, alkoxy, acyl, oxycarbonyl, halo; X = S, CO, CO2, SO2, single bond; A = arom. ring; p = 0-3; m = 0-5; n = 0-10; k = 1-2]. High coloration, sensitivity, and image stability are obtained. Thus, a dispersion contg. 3-(N-methyl-N-cyclohexyl)amino-6-methyl- 7-anilinofluoran, III, poly(vinyl alc.), CaCO3,



methylcellulose, and alkali salt of isobutylene-maleic acid copolymer was applied on paper sheet dered to obtain a material, which showed lower background d. and higher image d. than a ref. compd. contg. 4,4'-isopropylidenediphenol as developer instead of III.

ST thermal printing phenolic color developer

IT **Printing, nonimpact**

(thermal, phenolic leuco dye developers for)

IT 131985-77-8 131985-78-9 131985-79-0

131985-80-3 131985-81-4 131985-82-5

RL: USES (Uses)

(developers, thermal printing materials contg.)

IT 131985-77-8 131985-78-9 131985-79-0

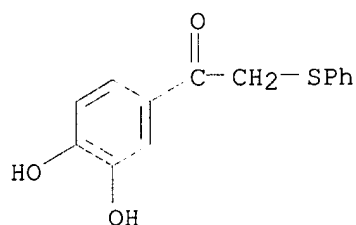
131985-80-3 131985-81-4 131985-82-5

RL: USES (Uses)

(developers, thermal printing materials contg.)

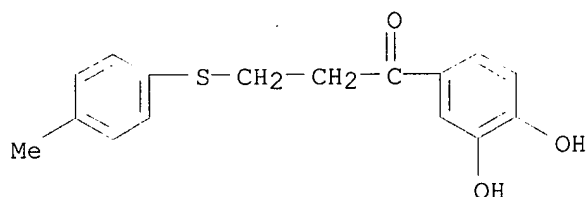
RN 131985-77-8 HCAPLUS

CN Ethanone, 1-(3,4-dihydroxyphenyl)-2-(phenylthio)- (9CI) (CA INDEX NAME)



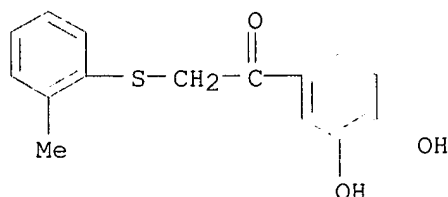
RN 131985-78-9 HCAPLUS

CN 1-Propanone, 1-(3,4-dihydroxyphenyl)-3-[(4-methylphenyl)thio]- (9CI) (CA INDEX NAME)



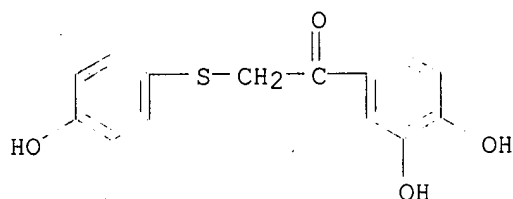
RN 131985-79-0 HCAPLUS

CN Ethanone, 1-(3,4-dihydroxyphenyl)-2-[(2-methylphenyl)thio]- (9CI) (CA INDEX NAME)

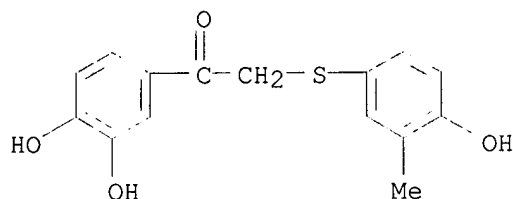


RN 131985-80-3 HCAPLUS

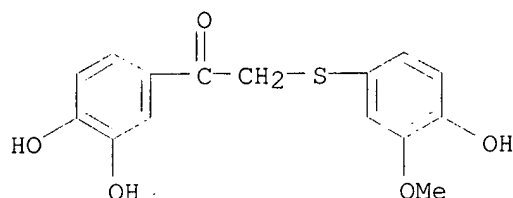
CN Ethanone, 1-(3,4-dihydroxyphenyl)-2-[(4-hydroxyphenyl)thio]- (9CI) (CA INDEX NAME)



RN 131985-81-4 HCAPLUS  
 CN Ethanone, 1-(3,4-dihydroxyphenyl)-2-[(4-hydroxy-3-methylphenyl)thio]-  
 (9CI) (CA INDEX NAME)



RN 131985-82-5 HCAPLUS  
 CN Ethanone, 1-(3,4-dihydroxyphenyl)-2-[(4-hydroxy-3-methoxyphenyl)thio]-  
 (9CI) (CA INDEX NAME)



L62 ANSWER 9 OF 13 HCAPLUS COPYRIGHT 2003 ACS  
 AN 1990:562614 HCAPLUS  
 DN 113:162614  
 TI Thermal recording sheet  
 IN Tsucha, Kikujiro; Inagaki, Seiji; Araki, Shingo  
 PA Dainippon Ink and Chemicals, Inc., Japan  
 SO Jpn. Kokai Tokkyo Koho, 11 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM B41M005-18  
 CC 74-12 (Radiation Chemistry, Photochemistry,  
 and Photographic and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 02029382	A2	19900131	JP 1989-89973	19890410 <--
	US 4988662 →	A	19910129	US 1989-343674	19890427 <--
PRAI	JP 1988-102441		19880427		<--

OS MARPAT 113:162614

AB In the title sheet with a coating layer contg. a color-forming lactone deriv., an acid, and a sensitizer, the sensitizer is a phenacyl ether or phenacyl sulfide deriv. The sheet shows improved sensitivity and stability.

ST phenacyl ether sensitizer thermal recording; sulfide phenacyl sensitizer thermal recording

IT Ethers, uses and miscellaneous  
Sulfides, uses and miscellaneous  
RL: USES (Uses)  
(phenacyl, sensitizers, thermal recording sheets contg.)

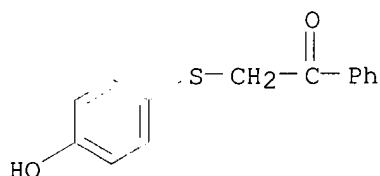
IT **Printing, nonimpact**  
(thermal, phenacyl ethers or phenacyl sulfides as sensitizers for)

IT 2408-88-0 7312-06-3 14385-48-9 14538-46-6 18065-01-5 18065-03-7  
19513-77-0 19514-05-7 23080-23-1 29263-70-5 30168-33-3  
33046-48-9 36234-92-1 42188-49-8 49742-23-6 50685-44-4  
50685-45-5 51358-03-3 58881-56-4 69638-04-6 82420-76-6  
91875-38-6 99236-17-6 100915-40-0 102001-51-4 103640-98-8  
129691-39-0 129691-40-3 129691-41-4 129691-42-5 129691-43-6  
129691-44-7 129691-45-8 129691-46-9 129691-47-0 129691-48-1  
129691-49-2 129691-50-5 129691-51-6 129691-52-7 129691-53-8  
**129691-54-9 129691-55-0** 129691-56-1 129691-57-2  
129691-58-3 129691-59-4 129691-60-7 129691-61-8 129691-62-9  
129691-63-0 129691-64-1 129715-60-2  
RL: USES (Uses)  
(sensitizer, thermal recording sheet contg.)

IT **129691-54-9 129691-55-0**  
RL: USES (Uses)  
(sensitizer, thermal recording sheet contg.)

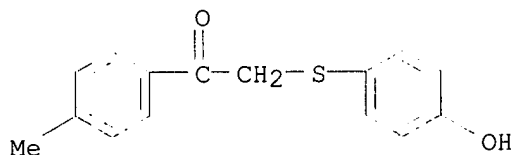
RN 129691-54-9 HCAPLUS

CN Ethanone, 2-[(4-hydroxyphenyl)thio]-1-phenyl- (9CI) (CA INDEX NAME)



RN 129691-55-0 HCAPLUS

CN Ethanone, 2-[(4-methylphenyl)thio]-1-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



L62 ANSWER 10 OF 13 HCAPLUS COPYRIGHT 2003 ACS

AN 1989:564337 HCAPLUS

DN 111:164337

TI Thermal recording materials containing a leuco dye and a phenolic sulfone compound as a color developer

IN Furuya, Hiromi; Hayakawa, Kunio; Oohashi, Miho

PA Ricoh Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.  
CODEN: JKXXAF

DT **Patent**

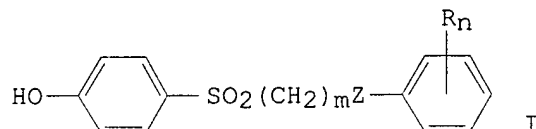
LA Japanese

IC ICM B41M005-18

CC 74-12 (Radiation Chemistry, Photochemistry,  
and Photographic and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 01072891	A2	19890317	JP 1987-231718	19870916 <--
	JP 2615073	B2	19970528		
PRAI	JP 1987-231718		19870916	<--	
OS	MARPAT 111:164337				
GI					



AB Thermal recording materials, utilizing a coloration reaction of a leuco dye with a color developer which colors the dye on contacting, use, as the color developer, a phenolic sulfone compd. I (Z = O, CO, OCO, CO<sub>2</sub>; R = lower alkyl, alkoxy, halo, m = 1-10; n = 0-3). The materials provide stable images and high whiteness backgrounds. Thus, a paper support was coated with a compn. contg. 3-(N-methyl-N-cyclohexylamino)-6-methyl-7-anilinofluoran, I (Z = O; R = H; m = 2), CaCO<sub>3</sub>, and binders to give a thermal recording paper, which gave high d. images with good alc. resistance and oil resistance.

ST thermal recording materials color developer; phenolic sulfone thermal recording materials

IT Sulfones

RL: USES (Uses)

(phenolic, color developers, for thermal recording)

IT **Printing, nonimpact**

(thermal, phenolic sulfones as color developers for good image stability in)

IT 123017-84-5 123017-85-6 123061-84-7 123061-85-8  
123073-94-9

RL: USES (Uses)

(color developer, for thermal recording material)

IT 55250-84-5

RL: USES (Uses)

(color former, for thermal recording material)

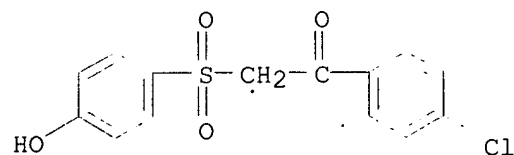
IT 123017-84-5

RL: USES (Uses)

(color developer, for thermal recording material)

RN 123017-84-5 HCAPLUS

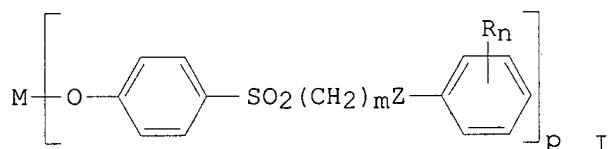
CN Ethanone, 1-(4-chlorophenyl)-2-[(4-hydroxyphenyl)sulfonyl]- (9CI) (CA  
INDEX NAME)



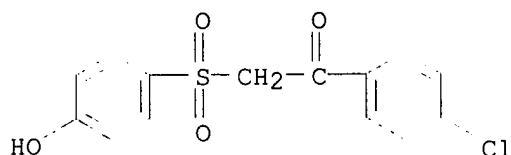
DN 111:123956  
 TI Thermal recording materials containing a leuco dye and a sulfone compound color developer  
 IN Furuya, Hiromi; Hayakawa, Kunio; Ohashi, Miho  
 PA Ricoh Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DT **Patent**  
 LA Japanese  
 IC ICM B41M005-18  
 CC **74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)**  
 FAN.CNT 1  

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 01071784	A2	19890316	JP 1987-228149	19870911 <--
PRAI	JP 1987-228149		19870911 <--		

 GI



AB Thermal recording materials, utilizing a coloration reaction of a leuco dye with a color developer which contacts with the dye to color it, use, as the color developer, a sulfone compd. I (M = 2-4-valent metal; Z = O, CO, OCO, CO<sub>2</sub>; R = H, lower alkyl, alkoxy, halo; m = 1-10; n = 0-3; p = 2-4). The materials provide stable images and high whiteness backgrounds. Thus, a paper support was coated with a compn. contg. 3-(N-methyl-N-cyclohexylamino)-6-methyl-7-anilino-fluoran, I (M = Zn; Z = O; R = H; m = 2; p = 2), CaCO<sub>3</sub>, and binders. The recording paper gave high d. images and low d. backgrounds with good plasticizer resistance, oil resistance, and alc. resistance.  
 ST thermal recording materials color developer; sulfone compd thermal recording material; leuco dye thermal recording material  
 IT **Printing, nonimpact**  
 (thermal, aryl sulfone compds. as color developers for, with image stability and background whiteness)  
 IT 122532-05-2 122580-64-7 122580-65-8 122580-66-9 122580-67-0  
 122580-68-1 **122580-69-2** 122580-70-5  
 RL: USES (Uses)  
 (color developer, for thermal printing material)  
 IT 55250-84-5  
 RL: USES (Uses)  
 (color former, for thermal printing material)  
 IT **122580-69-2**  
 RL: USES (Uses)  
 (color developer, for thermal printing material)  
 RN 122580-69-2 HCAPLUS  
 CN Ethanone, 1-(4-chlorophenyl)-2-[(4-hydroxyphenyl)sulfonyl]-, zinc salt (9CI) (CA INDEX NAME)



● 1/2 Zn

L62 ANSWER 12 OF 13 HCAPLUS COPYRIGHT 2003 ACS

AN 1989:125246 HCAPLUS

DN 110:125246

TI Positive image-forming process using positive heat-developable photosensitive material

IN Naito, Hideki

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 31 pp.

CODEN: JKXXAF

DT **Patent**

LA Japanese

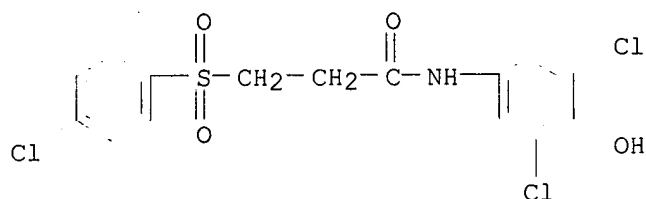
IC ICM G03C005-00

ICS G03C001-06

CC **74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)**

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 63208041	A2	19880829	JP 1987-40427	19870225 <--
PRAI	JP 1987-40427		19870225 <--		
AB	In the title process comprising imagewise exposure of the title material, heat development, and uniform exposure of the whole surface of the material after the imagewise exposure and before completing the heat development, the material contains a reducing agent such as 2,6-dichloro-p-aminophenol or its precursor such as 2,6-dichloro-p-(phenoxy-carbonylamino)phenol.				
ST	imaging process pos heat developing; heat developing pos photosensitive material; reducing agent pos photosensitive material				
IT	<b>Photographic emulsions</b> (heat-developable, pos., internal latent image-forming, contg. reducing agent or its precursor)				
IT	5930-28-9, 2, 6-Dichloro-p-aminophenol		104552-36-5	112092-95-2	
	112092-96-3	112092-99-6	112093-00-2	119431-22-0	<b>119431-23-1</b>
	119431-24-2				
RL:	USES (Uses) (heat-developable pos. silver halide photog. photosensitive materials contg.)				
IT	<b>119431-23-1</b>				
RL:	USES (Uses) (heat-developable pos. silver halide photog. photosensitive materials contg.)				
RN	119431-23-1. HCAPLUS				
CN	Propanamide, 3-[(4-chlorophenyl)sulfonyl]-N-(3,5-dichloro-4-hydroxyphenyl)-(9CI) (CA INDEX NAME)				



L62 ANSWER 13 OF 13 HCAPLUS COPYRIGHT 2003 ACS

AN 1987:224386 HCAPLUS

DN 106:224386

TI Image formation including heat treatment

IN Kitaguchi, Hiroshi; Sato, Kozo; Kato, Masatoshi

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 29 pp.

CODEN: JKXXAF

DT **Patent**

LA Japanese

IC ICM G03C001-06

ICS G03C005-00; G03C007-00

CC **74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)**

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 61269143	A2	19861128	JP 1985-111597	19850524 <--
	JP 05055024	B4	19930816		
	US 4775610	A	19881004	US 1986-866843	19860527 <--
PRAI	JP 1985-111597		19850524	<--	

GI For diagram(s), see printed CA Issue.

AB Image formation is effected by heating in the presence of of a compd. of the formula I and/or II [A = atoms required to complete an arom. or heterocyclic ring; X = nucleophilic group or its precursor; Q = H, alkyl, aryl; PUG = photog. useful group]. The photog. properties are not adversely affected by fluctuation in heat treatment temps.

ST photothermog additive; reagent precursor photothermog

IT **Photothermographic copying**

(materials for, photog. reagent precursor contg.)

IT **Photographic films**

(heat-developable, photog. reagent precursor contg.)

IT 108377-97-5 108377-98-6 108377-99-7 **108378-00-3**  
108378-01-4 108378-02-5

RL: USES (Uses)

(photothermog. materials contg.)

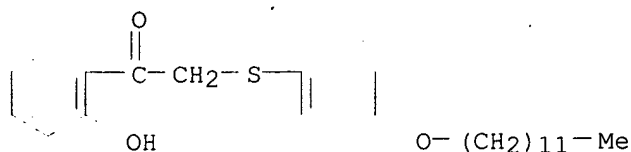
IT **108378-00-3**

RL: USES (Uses)

(photothermog. materials contg.)

RN 108378-00-3 HCAPLUS

CN Ethanone, 2-[[4-(dodecyloxy)phenyl]thio]-1-(2-hydroxyphenyl)- (9CI) (CA INDEX NAME)



=> fil uspatall

FILE 'USPATFULL' ENTERED AT 10:47:57 ON 02 MAR 2003

CA INDEXING COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPAT2' ENTERED AT 10:47:57 ON 02 MAR 2003

CA INDEXING COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

=> d bib abs hitstr tot

L74 ANSWER 1 OF 3 USPATFULL

AN 97:91329 USPATFULL

TI Photographic elements containing new cyan dye-forming coupler providing improved color reproduction

IN Lau, Philip T., Rochester, NY, United States

Rossi, Louis J., Rochester, NY, United States

Cowan, Stanley W., Rochester, NY, United States

PA Eastman Kodak Company, Rochester, NY, United States (U.S. corporation)

PI US 5674666 19971007

AI US 1996-742784 19961031 (8)

DT Utility

FS Granted

EXNAM Primary Examiner: Wright, Lee C.

LREP Kluegel, Arthur E.

CLMN Number of Claims: 17

ECL Exemplary Claim: 1,14,15

DRWN No Drawings

LN.CNT 879

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention provides a photographic element which comprises a light-sensitive silver halide emulsion layer having associated therewith a cyan dye-forming coupler having the formula: ##STR1## wherein: R.sub.1 represents an alkyl or aryl group;

R.sub.2 represents an alkyl group of 2 to 4 carbon atoms;

Ar represents an aryl group; and

Z represents a hydrogen atom or a group capable of being split off by reaction of the coupler with an oxidized color developing agent.

Such elements provide an improved cyan dye hue upon development.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 197566-37-3 197566-38-4 197566-39-5

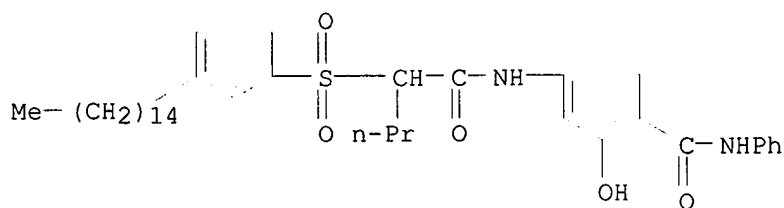
197566-40-8

(cyan photog. coupler in photog. elements providing improved color reprodn.)

RN 197566-37-3 USPATFULL

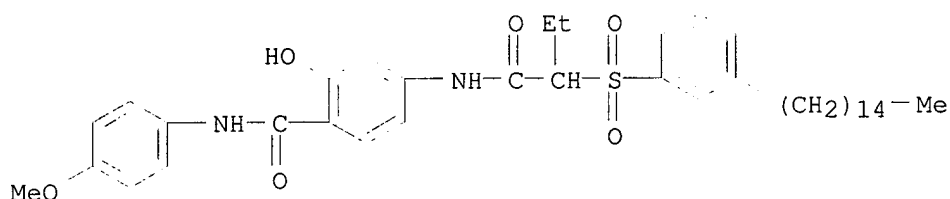
CN Benzamide, 2-hydroxy-4-[[1-oxo-2-[(3-pentadecylphenyl)sulfonyl]pentyl]amino]-N-phenyl- (9CI) (CA INDEX NAME)





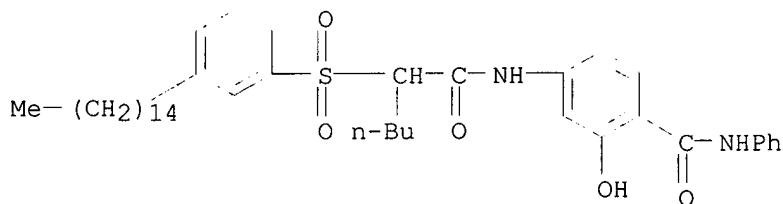
RN 197566-38-4 USPATFULL

CN Benzamide, 2-hydroxy-N-(4-methoxyphenyl)-4-[[1-oxo-2-[(3-pentadecylphenyl)sulfonyl]butyl]amino]- (9CI) (CA INDEX NAME)



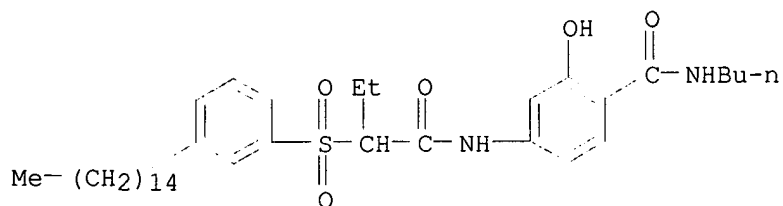
RN 197566-39-5 USPATFULL

CN Benzamide, 2-hydroxy-4-[[1-oxo-2-[(3-pentadecylphenyl)sulfonyl]hexyl]amino]-N-phenyl- (9CI) (CA INDEX NAME)



RN 197566-40-8 USPATFULL

CN Benzamide, N-butyl-2-hydroxy-4-[[1-oxo-2-[(3-pentadecylphenyl)sulfonyl]butyl]amino]- (9CI) (CA INDEX NAME)

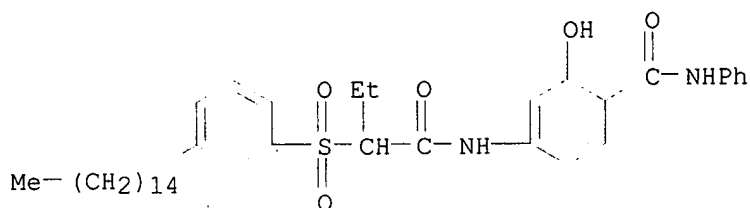


IT 197566-36-2P

(prepn. and use as cyan photog. coupler in photog. elements providing improved color reprodn.)

RN 197566-36-2 USPATFULL

CN Benzamide, 2-hydroxy-4-[[1-oxo-2-[(3-pentadecylphenyl)sulfonyl]butyl]amino]-N-phenyl- (9CI) (CA INDEX NAME)



L74 ANSWER 2 OF 3 USPATFULL

AN 91:8760 USPATFULL

TI Thermosensitive recording sheet

IN Tsuchiya, Kikuo, Nishinomiya, Japan

Inagaki, Masaji, Ashiya, Japan

Araki, Shingo, Kobe, Japan

PA Dainippon Ink and Chemicals, Inc., Tokyo, Japan (non-U.S. corporation)

PI US 4988662 19910129

AI US 1989-343674 19890427 (7)

PRAI JP 1988-102441 19880427

DT Utility

FS Granted

EXNAM Primary Examiner: Hess, Bruce H.

LREP Sherman and Shalloway

CLMN Number of Claims: 11

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 707

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A thermosensitive recording sheet comprising a substrate sheet and coated on the substrate, a film comprising a color-forming lactone compound, an acidic substance and a sensitizer, said sensitizer being a substituted or unsubstituted phenacyl ether compound or a substituted or unsubstituted phenacyl sulfide compound.

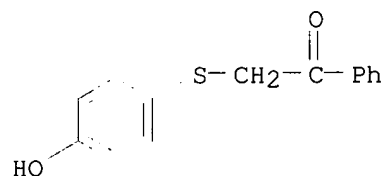
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 129691-54-9 129691-55-0

(sensitizer, thermal recording sheet contg.)

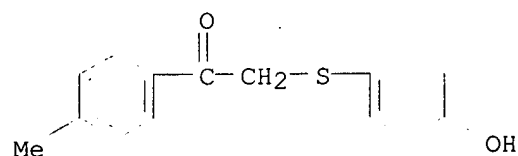
RN 129691-54-9 USPATFULL

CN Ethanone, 2-[(4-hydroxyphenyl)thio]-1-phenyl- (9CI) (CA INDEX NAME)



RN 129691-55-0 USPATFULL

CN Ethanone, 2-[(4-methylphenyl)thio]-1-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



L74 ANSWER 3 OF 3 USPATFULL  
 AN 88:63985 USPATFULL  
 TI Method for the formation of photographic images including heating step  
 IN Kitaguchi, Hiroshi, Kanagawa, Japan  
 Sato, Kozo, Kanagawa, Japan  
 Kato, Masatoshi, Kanagawa, Japan  
 PA Fuji Photo Film Co., Ltd., Kanagawa, Japan (non-U.S. corporation)  
 PI US 4775610 19881004  
 AI US 1986-866843 19860527 (6)  
 PRAI JP 1985-111597 19850524  
 DT Utility  
 FS Granted  
 EXNAM Primary Examiner: Michl, Paul R.; Assistant Examiner: Buscher, Mark R.  
 LREP Sughrue, Mion, Zinn, Macpeak & Seas  
 CLMN Number of Claims: 13  
 ECL Exemplary Claim: 1  
 DRWN No Drawings  
 LN.CNT 1597

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method for the formation of a photographic image including a heating step, comprising heating a photographic material in the presence of at least one compound selected from those represented by formulae (I) and (II) ##STR1## wherein A represents a non-metallic atomic group forming a carbocyclic aromatic ring or a heterocyclic aromatic ring;

X represents a nucleophilic group or a precursor thereof;

Q represents a hydrogen atom or a substituted or unsubstituted alkyl, cycloalkyl, or aryl group; and

PUG represents a photographically useful group.

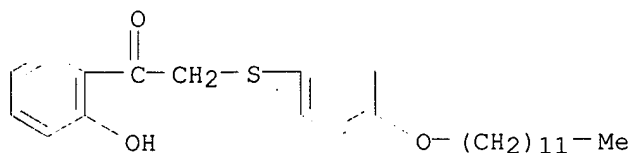
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 108378-00-3

(photothermog. materials contg.)

RN 108378-00-3 USPATFULL

CN Ethanone, 2-[[4-(dodecyloxy)phenyl]thio]-1-(2-hydroxyphenyl)- (9CI) (CA INDEX NAME)



=> d his

(FILE 'HOME' ENTERED AT 10:00:15 ON 02 MAR 2003)  
 SET COST OFF

FILE 'HCAPLUS' ENTERED AT 10:00:57 ON 02 MAR 2003

E HIDAKA T/AU  
 L1 124 S E3,E49  
 E SATO S/AU  
 L2 2154 S E3,E5,E193,E195,E197,E200,E201,E204  
 E KAWAKAMI T/AU

L3 301 S E3,E4,E10  
     E TOMAYA H/AU  
     E SHINICHI S/AU  
 L4 1 S E6  
     E TADASHI K/AU  
     E WO2000-JP6892/AP, PRN  
 L5 1 S E3,E4  
     E JP2000-37488/AP, PRN  
 L6 1 S E4  
     E JP99-282577/AP, PRN  
 L7 1 S E4  
 L8 1 S L1-L4 AND L5-L7  
 L9 1 S L5-L8  
     E NIPPON SODA/PA, CS  
 L10 3200 S E5-E63  
 L11 3458 S (NIPPON(L)SODA) /PA, CS  
 L12 1 S L9 AND L10, L11  
     SEL RN

FILE 'REGISTRY' ENTERED AT 10:04:31 ON 02 MAR 2003

L13 12 S E1-E12  
 L14 8 S L13 AND NR>=2  
 L15 7 S L14 NOT C14H13NO2S  
 L16 STR  
 L17 50 S L16  
 L18 8520 S L16 FUL  
     SAV L18 KUMAR089/A  
 L19 STR L16  
 L20 23 S L19 SAM SUB=L18  
 L21 462 S L19 FUL SUB=L18  
     SAV L21 KUMAR089A/A  
 L22 STR L19  
 L23 23 S L22 CSS SAM SUB=L21  
 L24 SCR 1700 AND 1135  
 L25 23 S L22 AND L24 CSS SAM SUB=L21  
 L26 415 S L22 AND L24 CSS FUL SUB=L21  
     SAV L26 KUMAR089B/A  
 L27 STR L22  
 L28 9 S L27 CSS SAM SUB=L26  
 L29 170 S L27 CSS FUL SUB=L26  
     SAV L29 KUMAR089C/A  
 L30 7 S L13 AND L29  
 L31 163 S L29 NOT L30

FILE 'HCAOLD' ENTERED AT 10:26:57 ON 02 MAR 2003

L32 0 S L30  
 L33 3 S L31  
     SEL  
     EDIT E13-E15 /AN /OREF

AN

FILE 'HCAPLUS' ENTERED AT 10:27:48 ON 02 MAR 2003

L34 5 S E13-E15  
     SEL DN 2 5  
 L35 3 S L34 NOT E16-E17  
 L36 1 S L30  
 L37 68 S L31  
 L38 1 S L36 AND L1-L12  
 L39 2 S L37 AND L1-L12  
 L40 3 S L38, L39  
 L41 66 S L37 NOT L40  
 L42 61 S L41 AND (PD<=20001004 OR PRD<=20001004 OR AD<=20001004)  
 L43 10 S L42 AND (RADI? OR PHOTO?) /SC, SX  
     E RECORDING/CT

L44 E E3+ALL  
7 S L42 AND E2,E1+NT  
L45 2 S L40 AND E2,E1+NT  
E RECORDING MATERIAL/CT  
E E4+ALL  
L46 2 S L40 AND E3,E2+NT  
L47 3 S L42 AND E3,E2+NT  
L48 12 S L44-L47,L40  
E THERMAL PRINT/CT  
E E7+ALL  
L49 614 S E7,E6+NT  
E E14+ALL  
L50 20295 S E7,E5+NT  
E E18+ALL  
L51 4917 S E4,E3+NT  
L52 2 S L40 AND L49-L51  
L53 7 S L42 AND L49-L51  
L54 13 S L48,L52,L53,L43  
L55 16 S L35,L36,L40,L43-L48,L52-L54  
L56 16 S L55 AND L34-L55  
L57 13 S L56 AND (74 OR RADIAT? OR PHOTO? OR REPROG?)/SC,\$X  
L58 3 S L56 NOT L57  
L59 32 S L42 AND P/DT  
L60 22 S L59 NOT L57  
L61 7 S L60 NOT (PHARMACO? OR PHARMACEUT?)/SC,SX  
L62 13 S L57 AND L1-L12,L34-L61  
SEL HIT RN

FILE 'REGISTRY' ENTERED AT 10:39:31 ON 02 MAR 2003

L63 47 S E1-E47  
L64 47 S L30,L63

FILE 'REGISTRY' ENTERED AT 10:42:35 ON 02 MAR 2003

FILE 'HCAPLUS' ENTERED AT 10:42:50 ON 02 MAR 2003

FILE 'USPATFULL, USPAT2' ENTERED AT 10:43:46 ON 02 MAR 2003

L65 0 S L30  
L66 13 S L31  
L67 1 S L66 AND (PRINT? OR RECORD? OR COPY? OR PAPER? OR THERM?)/CT  
L68 1 S L66 AND B41M/IC,ICM,ICS  
L69 1 S L66 AND 503/NCLM,NCLS,INCLM,INCLS  
L70 1 S L67-L69  
L71 12 S L66 NOT L70  
SEL AN 3 10  
L72 2 S E48-E49  
L73 3 S L70,L72

FILE 'USPATFULL, USPAT2' ENTERED AT 10:47:57 ON 02 MAR 2003

L74 3 S L73 AND L66